U.S.S.N. 10/757,616
Attorney Docket No.: MBZ-001CN

Group Art Unit: 1637
Examiner: Heather Calamita

REMARKS

Claims 56-72 were pending. Claims 56-72 were cancelled. Claims 73-84 were added. Therefore, claims 73-84 will be pending upon entry of the present amendment.

No new matter has been added. Support for new claim 73 can be found, for example, at least in claim 1 as originally filed and in the specification at page 8, line 19 and page 25, line 10. Support for new claim 74 can be found, for example, at least in claim 1 as originally filed and in the specification at page 25, line 10. Support for new claim 75 can be found, for example, at least in claim 1 as originally filed and in the specification at page 4, line 36, page 8, line 18, and page 25, line 10. Support for new claim 76 can be found, for example, at least in claims 1 and 12 as originally filed and in the specification at page 4, lines 30-35 and page 25, line 10. Support for new claim 77 can be found, for example, at least in claim 1 as originally filed and in the specification at page 6, lines 11-15 and page 25, line 10. Support for new claim 78 can be found, for example, at least in claims 1 and 12 as originally filed and in the specification at page 4, lines 30-35 and page 25, line 10. Support for new claim 79 can be found, for example, at least in claim 7 as originally filed and in the specification at page 25, line 10. Support for new claim 80 can be found, for example, at least in claim 7 as originally filed and in the specification at page 25, line 10. Support for new claim 81 can be found, for example, at least in claim 7 as originally filed and in the specification at page 25, line 13. Support for new claim 82 can be found, for example, at least in claim 5 as originally filed and in the specification at page 25, line 25. Support for new claim 83 can be found, for example, at least in claim 19 as originally filed and in the specification at page 25, line 23. Support for new claim 84 can be found, for example, at least in claim 36 as originally filed and in the specification at page 4, line 24.

Applicants would like to confirm the election of group I, claims 56-65 drawn to a method for identifying small molecules relevant to a nervous system disorder, classified in class 436, subclass 507. Although claims 56-65 have been cancelled, Applicants note that currently pending claims 73-84 are also directed to methods for identifying small molecules relevant to a nervous system disorder, classified in class 436, subclass 507.

Applicants would like to thank the Examiner and Examiner Fredman for the telephonic interview that took place on March 24, 2005 between them and Applicants' attorneys. The claims set forth below were discussed during the telephonic interview.

Pending Claims 73-84

Applicants' pending claims are directed to methods for identifying small molecules relevant to a nervous system disorder, by obtaining a small molecule profile of a sample from a subject suffering from a nervous system disorder, and identifying the small molecules relevant to the nervous system disorder using the small molecule profile. In claim 73, the small molecule profile is obtained using one or more techniques which detect 50% or more of the small molecules in the sample. In claim 74, the small molecule profile comprises information regarding 50 or more small molecules. In claim 75, the small molecule profile comprises information regarding the presence of electrochemically active and electrochemically neutral small molecules. In claim 76, the small molecule profile is obtained using two or more of the listed techniques, which include HPLC, TLC, electrochemical analysis, mass spectroscopy, RI, UV, fluorescent analysis, radiochemical analysis, Near-IR, NMR, and LS. In claim 77, the small molecule profile comprises information regarding the presence of two or more types of small molecules such as sugars, fatty acids, amino acids, nucleotides, metabolites, and products of catabolism. In claim 78, the small molecule profile is obtained using one or more of the following techniques: TLC, electrochemical analysis, mass spectroscopy, RI, UV, fluorescent analysis, radiochemical analysis, Near-IR, NMR, and LS.

Objections to Claims 58, 59, 64 and 65

Claims 58, 59, 64 and 65 were objected to because of informalities. Applicants respectfully submit that these claims have been cancelled, thus rendering the objection moot.

Rejection of Claims 58 and 59 under 35 U.S.C. § 112, second paragraph

Claims 58 and 59 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully submit that these claims have been cancelled, thus rendering the rejection moot.

Rejection of Claims 56-58 and 60-62 under 35 U.S.C. § 102 (b)

Claims 56-58 and 60-62 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,871,712 ("Siman"). According to the Examiner, Siman teaches a method for identifying small molecules relevant to a nervous system disorder. Applicants submit that claims 56-58 and 60-62 have been cancelled, thus rendering their rejection moot. To the extent that the Siman reference may be applied against the

presently claimed invention, Applicants present the following arguments for patentability.

The subject matter of the pending claims is set forth above.

The Siman reference describes a method for detecting calpain activation by detecting levels of calpain-generated spectrin BDP's using antibodies that specifically bind to these proteins.

By design, Siman's antibodies only detect spectrin BDPs, and do not detect small molecule profiles. Accordingly, the reference fails to anticipate the claims. The reference only teaches detection of apectrin-BDFs, not more than one type of small molecule, let alone 50% or more of the small molecules in the sample, or 50 or more than small molecules as required by Applicants. Furthermore, Siman's antibodies only detect spectin BDP's which are polypeptides, and not sugars, fatty acids, amino acids, nucleotides, metabolites, and products of catabolism, as claimed in claim 77. Siman also fails to teach or suggest detecting both electrochemically active and electrochemically neutral small molecules as required by claim 75.

Therefore, Applicants respectfully submit that Siman does not teach or suggest the presently claimed invention and request that the rejection by reconsidered and withdrawn.

Rejection of Claims 56-62 under 35 U.S.C. § 102(e)

Claims 56-62 were rejected under 35 U.S.C. § 102(e) as being anticipated by Niebroj-Doboscz *et al.* (*Acta Neurol. Scan.* 1999 100:6-11). Applicants submit that claims 56-62 have been cancelled, thus rendering their rejection moot. To the extent that the Niebroj-Doboscz *et al.* reference may be applied against the presently claimed invention, Applicants present the following arguments for patentability.

The subject matter of the pending claims is set forth above.

Niebroj-Dobosz *et al.* is directed to confirming the hypothesis that amino acids act as transmitters in amyotrophic lateral sclerosis. Niebroj-Dobosz used HPLC to test for the presence of excitotoxic amino acids.

In Niebroj-Dobosz *et al.*, the presence of four amino acids were studied: aspartate, glutamate, glycine, and GABA. The techniques used by Niebroj-Dobosz are specific to removing the amino acids of interest from the sample through pre-column derivitization with florescent agents and then passing the derivatized amino acids through an HPLC column. The techniques used by Niebroj-Dobocz *et al.* only detect the amino acids of interest to them, and not 50 or more or 50% or more of the small molecules in the sample as claimed by Applicants in claims 73 and 74.

In Niebroj-Dobosz *et al.*, the HPLC methods described therein are selected to separate electrochemically active molecules which react with the florescent detectors. The florescent detectors used by Niebroj-Dobosz *et al.* are by design specifically for the amino acids of interest to them. The methods of Niebroj-Dobosz *et al.* are specific to the particular amino acids studied and not to a diverse group of electrochemically active and electrochemically neutral small molecules as claimed by Applicants in claim 75.

Niebroj-Dobosz *et al.* also fails to teach or suggest using two different techniques selected from: HPLC, TLC, electrochemical analysis, mass spectroscopy, refractive index spectroscopy (RI), Ultra-Violet spectroscopy (UV), fluorescent analysis, radiochemical analysis, Near-InfraRed spectroscopy (Near-IR), Nuclear Magnetic Resonance spectroscopy (NMR), and Light Scattering analysis (LS), as claimed by Applicant in claim 76.

Niebroj-Dobosz *et al.* is directed to proving the hypothesis that ALS results in an imbalance of excitatory and inhibitory amino acids. Niebroj-Dobosz *et al.* does not teach or suggest a method for identifying disease relevant small molecules by comparing a small molecule profile comprising information regarding two or more types of small molecules selected from the group consisting of: sugars, fatty acids, amino acids, nucleotides, metabolites, and products of catabolism in claim 77. In contrast, the methods described by Niebroj-Dobosz are specific to the amino acids which were previously identified.

Therefore, Applicants respectfully submit that Niebroj-Dobosz *et al.* does not teach or suggest the presently claimed invention.

SUMMARY

Cancellation of and/or amendments to the claims should in no way be construed as an acquiescence to any of the Examiner's objections and/or rejections. The cancellation of and/or amendments to the claims are being made solely to expedite prosecution of the above-identified application. Applicants reserve the option to further prosecute the same or similar claims in the present or another patent application. The amendments made to the claims are not related to any issues of patentability.

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In view of the above remarks and amendments, it is believed that this application is in condition for allowance. If a telephone conversation with Applicant's Attorney would expedite prosecution of the above-identified application, the Examiner is urged to call Elizabeth A. Hanley, Esq. at (617) 227-7400.

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By _____

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